

All-glass triode rated for a maximum anode dissipation of 400W, and suitable for use at frequencies up to 75Mc/s.

PRELIMINARY DATA

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS – TRANSMITTING VALVES included in this volume of the handbook.

FILAMENT	Thoriated tungsten		
V_f		10	V
I_f		10	A

MOUNTING POSITION

Vertical – with filament connectors up or down.

Horizontal – with plane of electrodes vertical.

CAPACITANCES

C_{a-g}	6.3	pF
C_{g-f}	12.3	pF
C_{a-f}	8.5	pF

CHARACTERISTICS (measured at $I_a=200\text{mA}$)

g_m	4.0	mA/V
μ	35	

COOLING

$T_{\text{anode seal max.}}$	145	°C
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It is necessary to keep the temperature of the dome between the anode and grid seals below 145°C and under some conditions of operation an air flow of up to 40 cu.ft./min. from a 2-in. diameter nozzle directed at this area may be necessary.

OPERATION AS SINGLE VALVE R.F. POWER OSCILLATOR OR AMPLIFIER (CLASS "C" TELEGRAPHY OR F.M. TELEPHONY)

Limiting Values

	Forced air cooling	Natural cooling	
V_a max.	4.0	3.0	kV
p_a max.	400	300	W
$-V_g$ max.	500	500	V
I_g max.	100	100	mA
p_g max.	20	20	W
I_k max.	600	600	mA
$i_{k(pk)}$ max.	3.0	3.0	A
R_{g-f} max.	15	15	kΩ

TY4-350

V.H.F. POWER TRIODE

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Typical Operating Conditions

	Forced air cooling	Natural cooling	
f	< 20	< 30	Mc/s
V_a	4.0	3.0	kV
V_g	-200	-200	V
I_a	450	415	mA
$v_{in(pk)}$	375	360	V
I_g	75	55	mA
P_a	360	245	W
P_{out}	1.44	1.0	kW
$P_{load(driver)}$	35	33	W
η	80	80	%
* P_{load}	1152	800	W

*With a circuit transfer efficiency of 80%.

OPERATION AS R.F. POWER AMPLIFIER (CLASS "C" TELEPHONY, ANODE MODULATION)

Limiting Values (carrier condition for modulation factor of 1)

	Forced air cooling	Natural cooling	
V_a max.	3.0	2.5	kV
P_a max.	270	200	W
$-V_g$ max.	500	500	V
I_g max.	100	100	mA
P_g max.	20	20	W
I_k max.	550	500	mA
$i_{k(pk)}$ max.	2.7	2.5	A
R_{g-f} max.	15	15	k Ω

Typical Operating Conditions

	Forced air cooling	Natural cooling	
f	< 20	< 30	Mc/s
V_a	3.0	2.5	kV
V_g	-300	-300	V
I_a	415	335	mA
I_g	85	75	mA
$v_{in(pk)}$	490	460	V
P_a	245	200	W
$P_{load(driver)}$	50	50	W
η	80	76	%
P_{out}	1000	635	W
* P_{load}	800	508	W
For 100% modulation			
P_{mod}	622	420	W

*With a circuit transfer efficiency of 80%.

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TY4-350

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OPERATION AS CLASS "B" A.F. POWER AMPLIFIER OR MODULATOR

Limiting Values

	Forced air cooling	Natural cooling
V_a max.	4.0	3.0 kV
p_a max.	400	300 W
I_g max.	100	100 mA
I_k max.	600	600 mA
$i_{k(pk)}$ max.	2.0	2.0 A

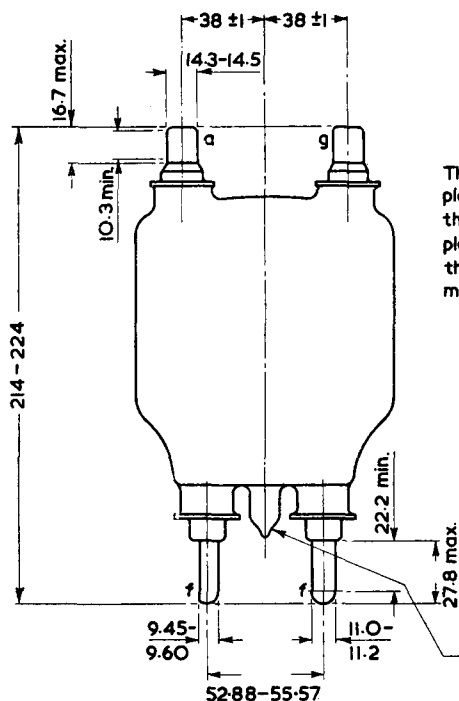
Typical Operating Conditions for two Valves in Push-Pull (with I_g)

	Forced air cooling	Natural cooling
V_a	4.0	3.0 kV
V_g	-100	-70 V
$I_{a(o)}$	2×50	2×50 mA
I_a (max. sig.)	2×400	2×375 mA
$V_{in(g-r)r.m.s.}$	336	280 V
I_g	2×67	2×56 mA
R_{a-a}	12	9.5 k Ω
P_{out}	2.4	1.65 kW

TY4-350

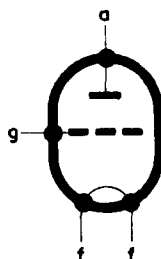
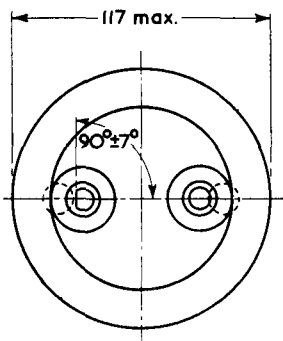
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The horizontal angle between the plane determined by the axes of the filament terminals and the plane determined by the axes of the grid and anode caps is not more than 5°

The mounting should provide liberal clearance for this tip



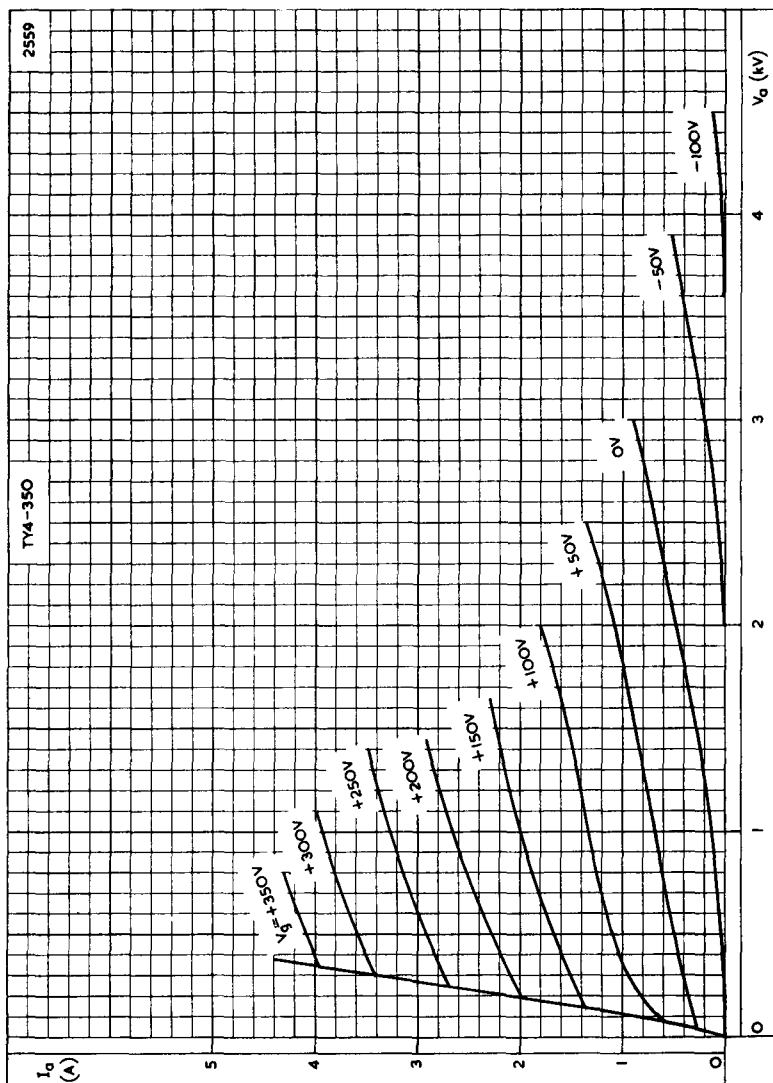
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All dimensions in mm

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TY4-350

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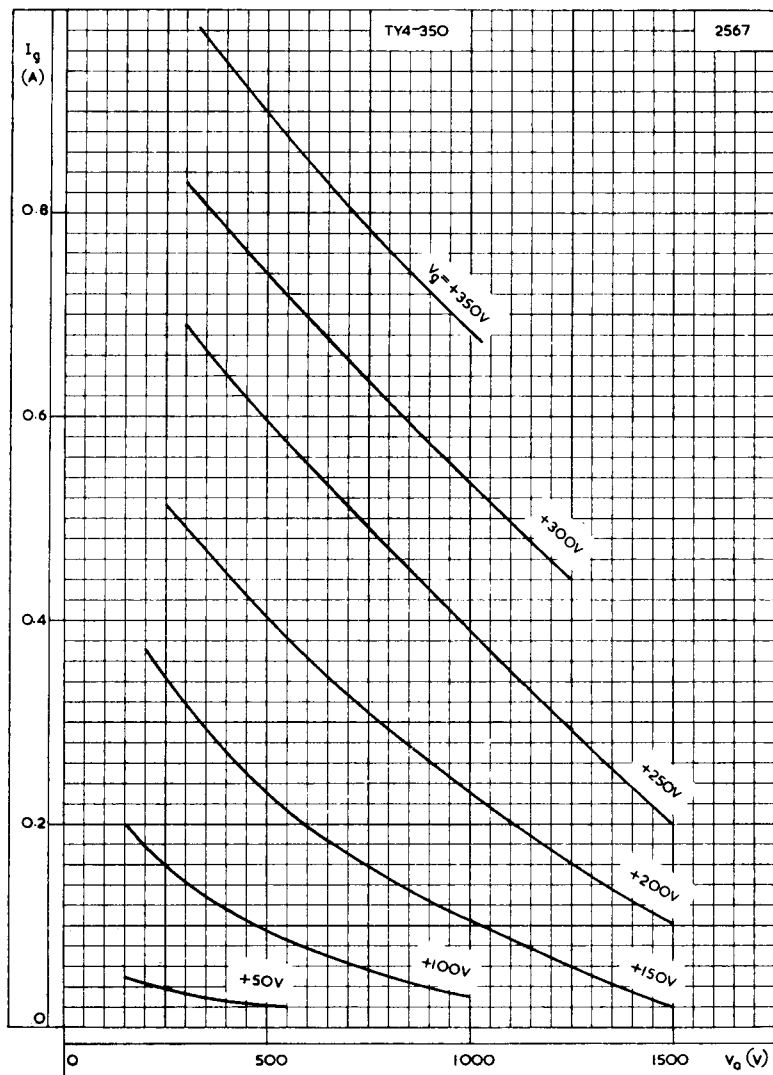


ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE

TY4-350

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GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE